we must pay for the

Revolution in Military Affairs

with a

Revolution in Business Affairs

- Honorable William S. Cohen, Secretary of Defense

Credits

- Packard Commission: “A Formula For Action”
- Mr Norm Augustine - from “Augustine’s Laws” and Paper for the Atlantic Council - Jul 98
- Mr Don Reinertsen - Data from “Developing Products in Half the Time”
- Bain and Company - 1996 International Survey of Business Revolution Tools
- RAND - SAR Database for ACAT I Programs
- Capt Ross McNutt - Lean Aerospace Initiative research on acquisition cycle time
- Mr Dan Czelusniak - Briefing to Defense Science Board
- Mr Young Shin - Development and analysis of SAR database on ACAT I programs
- Air Force Cycle Time Reduction Tiger Team

The 25 Most Popular Business Tools

- Activity-Based Costing
- Agile Strategies
- Balanced Scorecard
- Benchmarking
- Competetive Gaming
- Core Competencies
- Customer Retention
- Customer Satisfaction Measurement
- **Cycle Time Reduction**
- Groupware
- Growth Strategies
- Knowledge Management
- Market Migration Analysis
- Mass Customization
- Mission and Vision Statements
- Pay-for-Performance
- Portfolio Analysis
- Reengineering
- Scenario Planning
- Self-Directed Teams
- Shareholder Value Analysis
- Strategic Alliances
- Strategic Planning
- Total Quality Management
- Value Chain Analysis

Source: Bain & Company
1996 International Survey

Comments on Business Tools

- Very few tools are multi-purpose, i.e., good at "doing it all."

- Most management teams still employ too many "fad"-type tools simultaneously in piece-meal attempts to improve performance.

- **Cycle Time Reduction** is a multi-purpose management tool that links comprehensive performance improvement with the actions that drive change.

Source: Bain & Company
1996 International Survey

Cycle Time Reduction

Satisfaction Rankings Survey

- Achieving financial results (#1)
- Improving long-term performance capabilities (#1)
- Overall satisfaction as a management tool (#2)
- Best tool for use in achieving multiple strategic priorities (#2)

Source: Bain & Company
1996 International Survey

Evidence that Cycle Time Reductions are Feasible

Industry	Past	Current	Goal
Automobile	**84 months**	**24 months**	**<18 months**
Commercial Aircraft	**8-10 years**	**5 years**	**2 1/2 years**
Commercial Spacecraft	**8 yrs**	**18 months**	**12 months**
Consumer Electronics	**2 yrs**	**6 months**	**<6 months**

50-70% Reductions In Cycle Time are Typical

Benefits of Reduced Cycle Times

- **Development and production benefits using metrics common to both commercial and military sectors:**
  - **50% reduction in cycle time associated with:**
    - **A 30% reduction in engineering hours (averaged over multiple studies)**
    - **A 20-25% reduction in cost of goods sold (35-50% for "service intensive" products)**
    - **2X Net Asset turns, 2-4X inventory turns, 50% higher sales to plant and equipment ratios**

Packard Commission Conclusions (1986)

"An unreasonably long acquisition cycle - ten to fifteen years for our major weapon systems ... is a central problem from which most other acquisition problems stem:

- It leads to unnecessarily high cost of development...
- It leads to obsolete technology in our fielded equipment...
- And it aggravates the very gold plating that is one of its causes..."

"We believe it is possible to cut this cycle in half"

Packard Commission: "A Formula For Action"

SECDEF DIRECTION

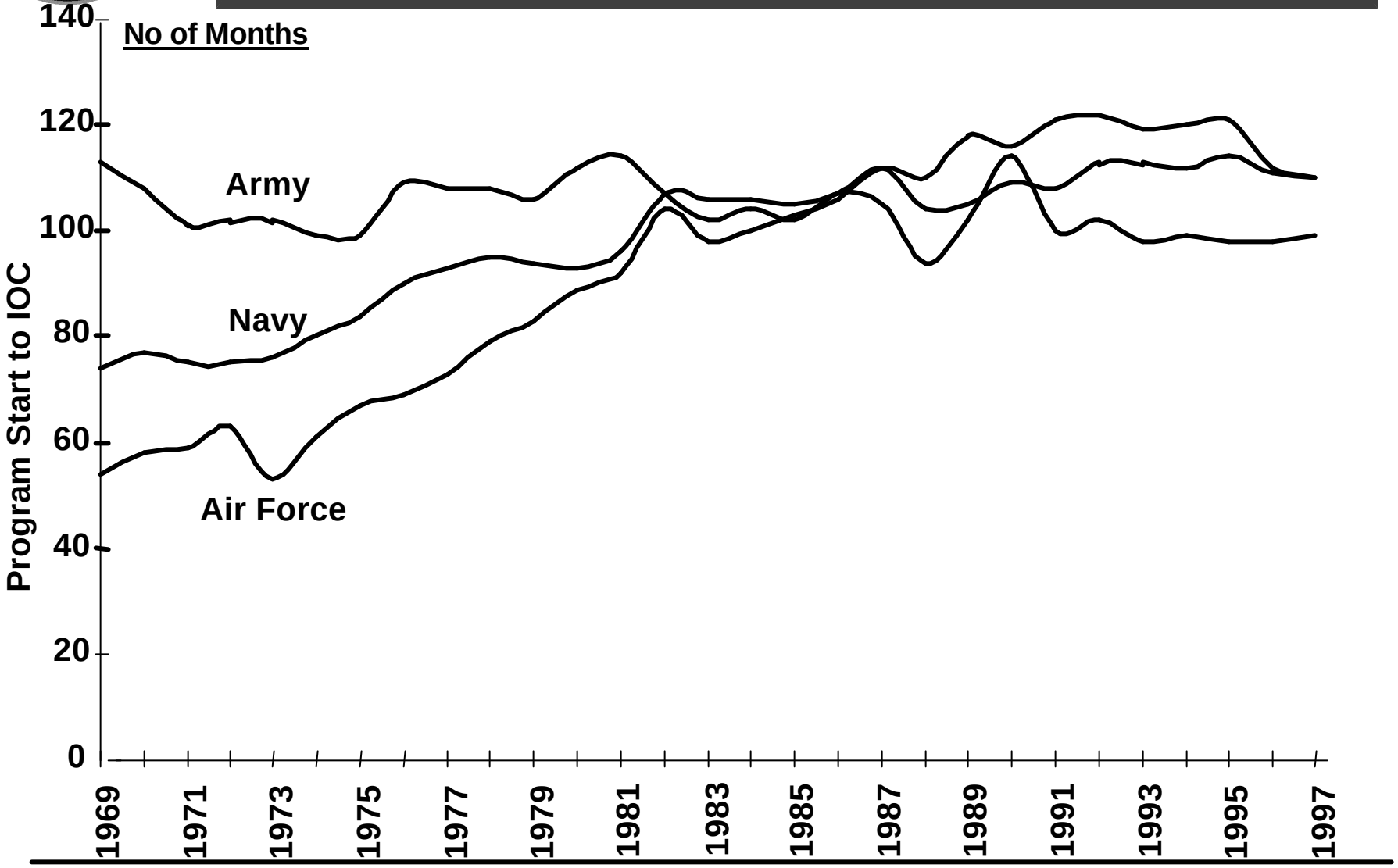
Memo dated 14 Sept 1994 to:

- Secretaries of the Military Departments
- Chairman, Joint Chiefs of Staff
- Under Secretaries of Defense
- Director Defense Research &Engineering
- Assistant Secretaries of Defense
- General Counsel
- Inspector General
- Director Operational Test & Evaluation
- Assistants to the Secretary of Defense
- Director of Administration & Management
- Directors of Defense Agencies

Dr. Perry Stated:

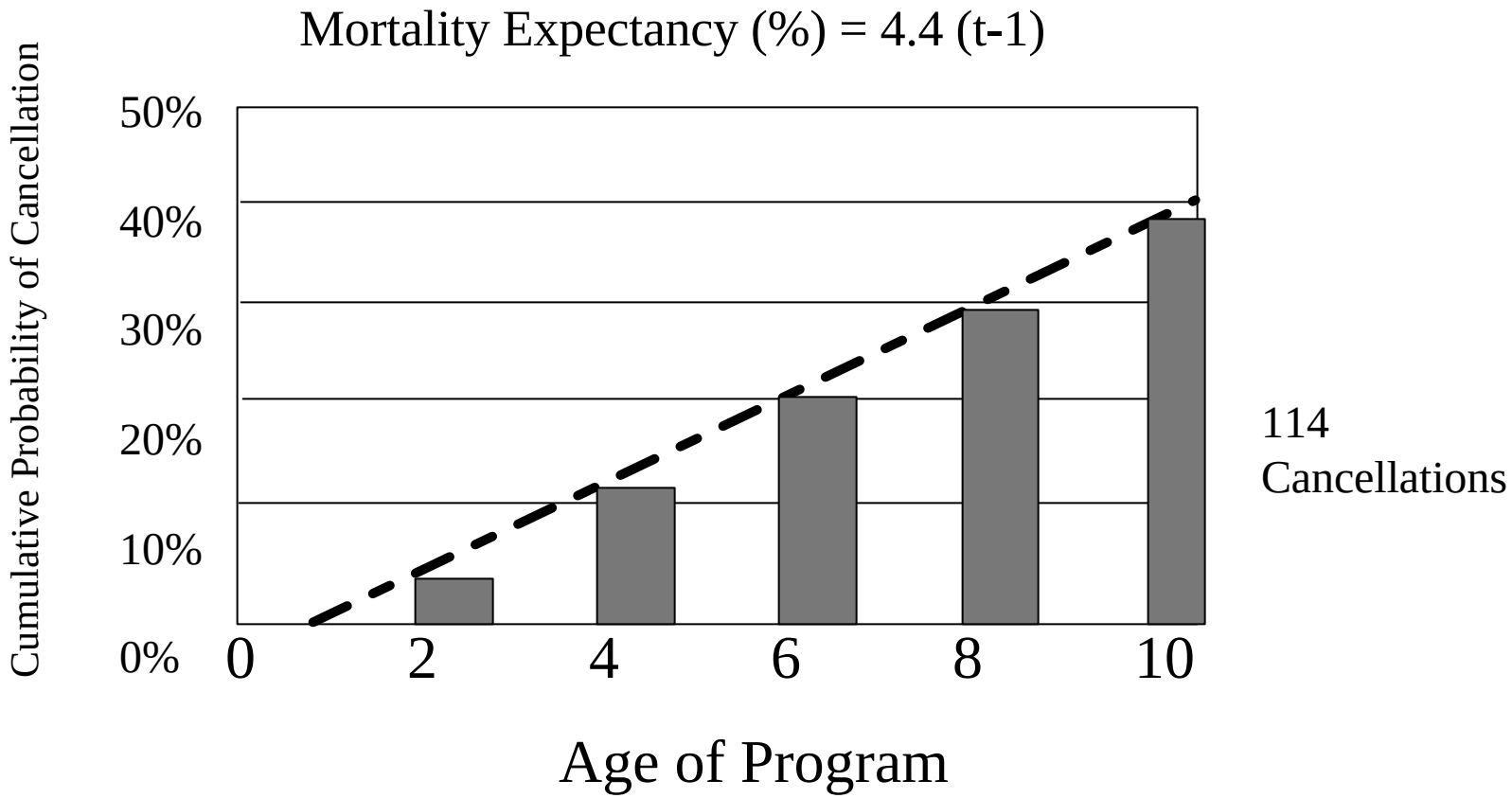
" ... I am challenging each military department and defense agency to establish performance agreements that will reduce cycle time by least 50 percent by the year 2000."

Average Cycle Times (By SAR Reporting Years)



Source: DSB Briefing, Dan Czelusniak, 12 June 1998

Increased Program Cancellations



Loss of Accountability

Number of: (132 Months Avg ACAT I)*

Program Director	4
Program Executive Officer	5
Service Acquisition Executive	8
Defense Acquisition Executive	8
Chairman of the Joint Chiefs of Staff	5
Secretary of Defense	7
Presidents	3
Budget Cycles	11

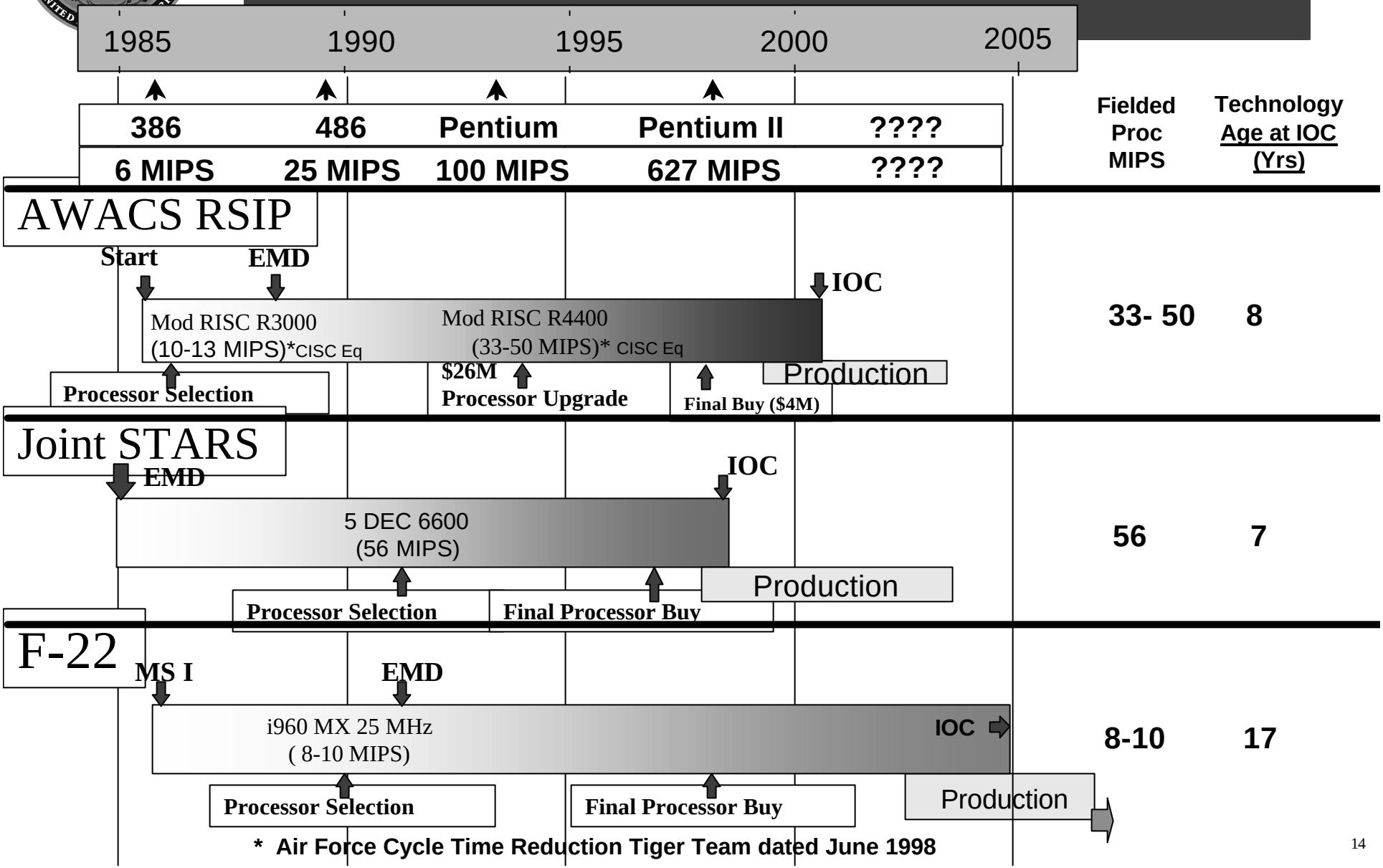
Predicting Threats is A Gambler's Delight

Known State of the World	World 20 Years Later
• 1919: Japan is ally	• 1939: Japan is major adversary
• 1921: Hitler 12 years from being elected	• 1941: Hitler conquers much of Europe
• 1930: Korea is our ally, Japan's colony	• 1950: Korea is an adversary with Chinese support
• 1945: Vietnam is our ally, France's colony	• 1965: North Vietnam is a major adversary
• 1971: Saddam Hussein 8 years from power	• 1991: Saddam Hussein is a major adversary
• **1998: Post-Cold War Era**	• **2018: ???**

Predicting future adversaries, 20 years out, is extremely difficult.

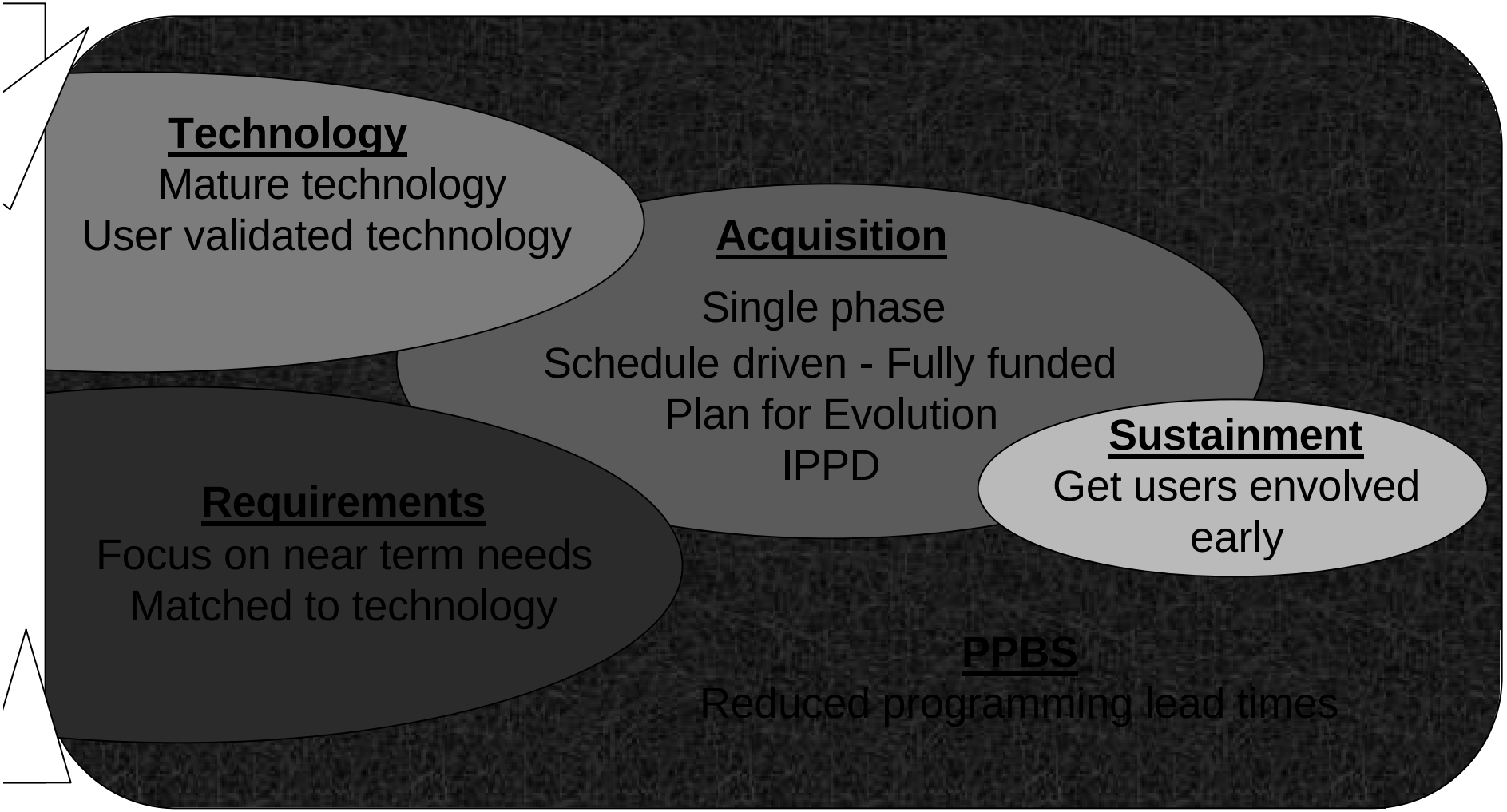
Norm Augustine: Paper for the Atlantic Council, July 1998

Dated Technology in Systems Fielded



* Air Force Cycle Time Reduction Tiger Team dated June 1998

What has to change



What to Buy & What Not to Buy

- 95% of what we know is contained in what not to do
- Knowing what not to buy is important
- Procuring disruptive weapon systems
- How do we decide?

Military Utility Assessment

- Integral part of new procurement process
- Operated by end user in realistic environment
- Sufficient experience to determine critical operational characteristics
- Realization of time phased requirements

Maintaining the Realistic Operating Environment

- Threat representative targets
  - targets sometimes more complex than weapons
  - potential new, disruptive weapons
- Exercise ranges and range support areas
  - aircraft operating areas
  - FAA approval of UAV operations
- Creative exercise concepts
  - toxic agent defense
  - psychological and cultural effects

Summary

- Procure what we know we need
- Derive this knowledge from experience
- Obtain experience in realistic operational environment
- We must sustain and improve our realistic operational environment (both current and future) in current economic environment